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TROPICAL FOREST NOTES

INSTITUTE OF TROPICAL FORESTRY *
RIO PIEDRAS, PUERTO RICO



No. 6

BAMBOO FOR FENCE POSTS

by

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Untreated common bamboo (*Bambusa vulgaris*) has been used for fence posts in Puerto Rico, but the service life averages only 1.3 years which limits its use. The initial strength of the bamboo is sufficient for most posts, but the weakening by decay and termites at the ground line soon makes the posts unserviceable.

In our experiments on the treatment of fence posts, we found that this bamboo can be treated with a five percent solution of pentachlorophenol in Diesel oil. For this, the nodes of the bamboo were knocked out with a pipe after the posts were cut to the desired length. This permitted faster drying and interior penetration of the preservative. Apparently very little preservative penetrates through the hard outer shell, and the treatment has to be from the interior of the culm. We usually left the node at the top of the post intact so that rain water would not accumulate in the posts when in use. We also bored 1/4-inch holes through the posts before treatment at places where the line wires would be fastened.

We treated bamboo posts by cold soaking and by the hot-and-cold bath method. Good penetration, as revealed by examination of cut sections was secured by both types of treatment but better treatment resulted from the hot-and-cold bath method. The average retention of preservative was 6.3 pounds per cubic foot for a five-day cold soak, and 7.9 pounds per cubic foot for the hot-and-cold bath treatment. The posts were set out for the determination of service life in April 1959, so we do not know from experience how long the posts will last. We expect, however, that the posts treated by cold soaking will last 5 to 8 years, while those treated by the hot-and-cold bath method will last 8 to 12 years. It should be understood, however, that this is an estimate, and actual service life data may differ from this estimate.

Bamboo posts have many advantages when treated. The bamboo is easily obtained, since it occurs along or near roads, it does not have to be peeled for treatment, and it will dry sufficiently for treatment in 4 to 10 weeks. The nodes are easily broken out with a pipe, and the posts are light in weight yet sufficiently strong. Also, preservative costs amount to only 2 to 3 cents per post as compared to 10 to 12 cents for 7-foot wooden posts when the preservative costs 35 cents a gallon. One disadvantage is that staples will split the bamboo, but the line wires can be fastened by galvanized wire running through the holes bored for that purpose.

Bamboo species other than *B. vulgaris* may also be treated and used for

* Operated in cooperation with the University of Puerto Rico.

fence posts provided such species are sufficiently strong for the intended use.

Steps in the treatment of bamboo posts:

1. Cut mature culms that are at least two years old.
2. Cut culms in lengths for fence posts, usually 7 feet long. It is best if the top node is only 3 inches below the top of the post. Cut posts from lower two-thirds of the culm, since the upper part of the culm usually splits during seasoning.
3. Knock out all nodes but the top one with a pipe or iron bar.
4. Bore 1/4-inch holes through post just above top node, and then at 1-foot intervals, or at intervals you wish to place the line wires.
5. Pile posts on 8-inch concrete blocks for air drying, as green bamboo will not absorb the preservative. First, place two posts across each of two blocks, and then place 12 posts crosswise to these. Continue layers of 12 posts, each layer crosswise to the layer below. Season posts for 4 to 5 weeks in dry weather, and 8 to 10 weeks in wet weather.
6. Dip posts in the 5 percent pentachlorophenol solution for 3 minutes if powder post beetles attack the posts during drying to prevent further attack. It is good practice to make this dip just before piling for seasoning to avoid extra handling.
7. The posts can be treated when dry. This can be done by either cold soaking or by the hot-and-cold bath method.
 - A. Cold soaking. Submerge the posts for 5 days in 5 percent pentachlorophenol with Diesel oil. Drain the excess penta by slanting the posts over the treating tank.
 - B. Hot-and-cold bath. Submerge the posts for one hour in 5 percent pentachlorophenol heated to 200°F. Transfer the posts quickly to a cold solution of 5 percent pentachlorophenol. Leave submerged for 12 hours. Drain off excess penta after treatment.

May 3, 1961

NOTE

The enclosed mimeographed reports cover forest plantations studied since the publication of the Second Annual Report of the Section on Planting, Regional Committee on Forest Research, Latin American Forestry Commission, Food and Agriculture Organization United Nations, "Records of Forest Plantation Growth in Mexico, the West Indies, and Central and South America."

The Second Annual Report was published as a special supplement to Volume 21 of the Caribbean Forester. The Supplement was bound in loose-leaf form to permit the insertion of these individual plantation reports.

NOTA

Los informes mimeografiados que se incluyen cubren plantaciones forestales investigadas desde que se publicó el Segundo Informe Anual titulado "Datos de Crecimiento de Plantaciones Forestales en Mexico, Indias Occidentales y Centro y Sur America" por la Sección de Forestación, Comité Regional Sobre Investigación Forestal, Comisión Forestal Latinoamericana, Organización de las Naciones Unidas para la Agricultura y la Alimentación.

El Segundo Informe Anual se publicó como un suplemento especial al Volumen 21 del Caribbean Forester. El mismo se encuadernó en tal forma que permitiera la inserción de estos informes forestales.

SPECIES Eucalyptus globulus

ECOLOGICAL GROUP Temperate Moist

COUNTRY Chile

PLANTATION 264

GROWTH

DOMINANTS & CODOMINANTS

STAND PER HECTARE

AGE : DBH cm : HEIGHT m

NO. TREES: BASAL AREA : VOLUME

9

20

29

2170

28

SITE

LAT. 37°05'S

LONG. 73°10'W

ELEV. 110

ANNUAL RAINFALL 1240

DRY MONTHS Nov. - March

AV. TEMPERATURE 13°

FROST July - August

PARENT ROCK shale

SOIL residual

TOPSOIL TEXTURE none

SUBSOIL TEXTURE clay

DEPTH 1 m.+

REACTION 5.0

DRAINAGE free

SOIL STATE severely degraded

TOPOGRAPHY 20% slope

ASPECT W

CONDITION AT PLANTING secondary forest

SEED ORIGIN Plantation nearby

PLANTING

PREPARATION cleared

DATE 1952

SPACING 2 x 2

AREA 40

STOCK bareroot

TOOLS spade

CARE No thinning or pruning

REPRODUCTION. None, seeds produced.

LOCATION Stand 3, Fundo Roble Huacho, 1 km SE of Lota, Concepción

COMMENTS Excellent Form

SOURCE Hector Lisboa, Sociedad Agrícola y Forestal Colcura,

Lota, Chile

13 - 44

SPECIES Eucalyptus globulus

ECOLOGICAL GROUP Temperate Moist

COUNTRY Chile

PLANTATION 265

GROWTH

DOMINANTS & CODOMINANTS

STAND PER HECTARE

AGE : DBH cm : HEIGHT m

NO. TREES : BASAL AREA : VOLUME

20 34 43

2130 38

SITE

LAT. 37°05'S LONG. 73°10'W ELEV. 100

ANNUAL RAINFALL 1240 DRY MONTHS Nov. - March

AV. TEMPERATURE 13 FROST July - August

PARENT ROCK shale SOIL residual

TOPSOIL TEXTURE clay DEPTH 15 cm

SUBSOIL TEXTURE clay DEPTH 1 m. +

REACTION 5.5 DRAINAGE free

SOIL STATE moderately degraded TOPOGRAPHY 50% slope

ASPECT N CONDITION AT PLANTING secondary forest

SEED ORIGIN plantation nearby

PLANTING

DATE 1941 SPACING 2 x 2 AREA 48.8

STOCK bareroot TOOLS planting bar

SURVIVAL 92% at 20 years

REPRODUCTION None, seeds produced

LOCATION Lot A2, Villagrán, 5 km S. of Lota, Concepción

COMMENTS Mature for mine timbers, form excellent

SOURCE Hector Lisboa, Sociedad Agrícola y Forestal Colcura, Lota,

Chile

SPECIES Eucalyptus globulus

ECOLOGICAL GROUP Temperate moist

COUNTRY Chile

PLANTATION 266

GROWTH

DOMINANTS & CODOMINANTS

STAND PER HECTARE

AGE : DBH cm : HEIGHT m

NO. TREES: BASAL AREA : VOLUME

47 48 37

260 44

SITE

LAT. 37°05'S

LONG. 73°10'W

ELEV. 250

ANNUAL RAINFALL 1240

DRY MONTHS November-March

AV. TEMPERATURE 13

FROST July-August

PARENT ROCK Schist

SOIL residual

TOPSOIL TEXTURE clay

DEPTH 15 cm

SUBSOIL TEXTURE clay

DEPTH 15 cm

RELIEF 5.0

DRAINAGE free

SOIL STATE little disturbed

TOPOGRAPHY lower slope, 70%

ASPECT SW

CONDITION AT PLANTING secondary forest

SEED ORIGIN plantation nearby

PLANTING

PREPARATION cleared

DATE 1914

SPACING 2 x 2

AREA 3

STOCK bareroot

TOOLS shovel

REPRODUCTION Abundant

LOCATION Stand 3, Lomas del Ganado, 8 km SE of Lota,

Concepción

SOURCE Hector Lisboa, Sociedad Agrícola y Forestal Colcura,

Lota, Chile

13 - 46

SPECIES *Eucalyptus globulus*

ECOLOGICAL GROUP Temperate Moist

COUNTRY Chile

PLANTATION 267

GROWTH

DOMINANTS & CODOMINANTS

STAND PER HECTARE

AGE : DBH cm : HEIGHT m

NO. TREES : BASAL AREA : VOLUME

16 26 33

730 39

SITE

LAT. 37°05' S

LONG. 73°10'W

ELEV. 180

ANNUAL RAINFALL 1240

DRY MONTHS November - March

AV. TEMPERATURE 13

FROST July - August

PARENT ROCK Mica schist

SOIL residual

TOPSOIL TEXTURE None

SUBSOIL TEXTURE clay

DEPTH 50 cm

REACTION 6.0

DRAINAGE free

SOIL STATE severely degraded

TOPOGRAPHY Upper slope, 30%

ASPECT N

CONDITION AT PLANTING secondary forest

SEED ORIGIN plantation nearby

PLANTING

PREPARATION cleared

DATE 1929

SPACING 2 x 2

AREA 10

STOCK bareroot

TOOLS shovel

REPRODUCTION abundant

LOCATION Cerro Alto, 6 km SE of Lota, Concepción

COMMENTS Coppice after cutting in 1945

SOURCE Hector Lisboa, Sociedad Agrícola y Forestal, Colcura,

Lota, Chile

SPECIES *Eucalyptus grandis*

ECOLOGICAL GROUP Temperate Moist

COUNTRY Argentina

PLANTATION 283

GROWTH

DOMINANTS & CODOMINANTS

STAND PER HECTARE

AGE : DBH cm : HEIGHT m

NO. TREES: BASAL AREA : VOLUME

14

38

37

980

55

SITE

LAT. 31°20' S

LONG. 58°00' W

ELEV. 50

ANNUAL RAINFALL 1120

DRY MONTHS none

AV. TEMPERATURE 19

FROST May - August

PARENT ROCK granite

SOIL alluvial

TOPSOIL TEXTURE fine sand

DEPTH 50 cm

SUBSOIL TEXTURE sand

DEPTH 1 m.+

REACTION 4.5

DRAINAGE free

SOIL STATE moderately degraded

TOPOGRAPHY level

CONDITION AT PLANTING pasture

SEED ORIGIN plantation in Argentina

PLANTING

PREPARATION plowed and disked

DATE Oct., 1947

SPACING 3 x 3

AREA 0.2

STOCK potted

TOOLS shovel

SURVIVAL 90% at 14 years

CARE Disked 3 times each of first 3 years

REPRODUCTION seed abundant

LOCATION Colonia Ayuy, 25 km N of Concordia, Entre Rios

COMMENTS Form excellent

SOURCE Raul Rossi, San Martin 122, Concordia, Argentina

13 - 48

SPECIES *Eucalyptus grandis*

ECOLOGICAL GROUP Temperate Humid

COUNTRY Argentina

PLANTATION 284

GROWTH

DOMINANTS & CODOMINANTS

STAND PER HECTARE

AGE : DBH cm : HEIGHT m

NO. TREES : BASAL AREA : VOLUME

6

25

21

1050

30

SITE

LAT. 31°20' S

LONG. 58°00' W

ELEV. 50

ANNUAL RAINFALL 1120

DRY MONTHS none

AV. TEMPERATURE 19

FROST May - August

PARENT ROCK granitic

SOIL alluvial

TOPSOIL TEXTURE sand

DEPTH 1 m. +

SUBSOIL TEXTURE sand

REACTION 5.5

DRAINAGE free

SOIL STATE little disturbed

TOPOGRAPHY level

CONDITION AT PLANTING pasture

SEED ORIGIN plantation in Argentina

PLANTING

PREPARATION plowed and disked

DATE December 1955

SPACING 3 x 3

AREA 5

STOCK potted

TOOLS shovel

SURVIVAL 95% at 6 years

CARE Disked 8 times per year for 2 years

REPRODUCTION seeds abundant

LOCATION Yuqueri, 12 km W of Concordia, Entre Rios

SOURCE Guillermo von Wernich, Concordia, Argentina

SPECIES *Eucalyptus saligna*

ECOLOGICAL GROUP Temperate Humid

COUNTRY Argentina

PLANTATION 285

GROWTH

DOMINANTS & CODOMINANTS

AGE : DBH cm : HEIGHT m

8 24 25

STAND PER HECTARE

NO. TREES : BASAL AREA : VOLUME

1050 25

SITE

LAT. 27°50'S

LONG. 56°00' W

ELEV. 240

ANNUAL RAINFALL 1348

DRY MONTHS none

AV. TEMPERATURE 21°

FROST June - August

PARENT ROCK granite

SOIL residual

TOPSOIL TEXTURE clay

DEPTH 1 m.+

SUBSOIL TEXTURE clay

REACCION 5.0

DRAINAGE free

SOIL STATE moderately degraded

TOPOGRAPHY flat ridge

CONDITION AT PLANTING pasture

SEED ORIGIN plantation in Argentina

PLANTING

PREPARATION plowed

DATE 1953

SPACING 3 x 3

AREA 4

STOCK potted

TOOLS shovel

SURVIVAL 95% at 8 years

REPRODUCTION seed produced

LOCATION 5 km S of San José, Corrientes

SOURCE Lamberto Golfari, Celulosa Argentina S.A. Diagonal

Norte 938, Buenos Aires, Argentina

13 - 50

SPECIES *Eucalyptus saligna*

ECOLOGICAL GROUP Temperate humid

COUNTRY Argentina

PLANTATION 286

GROWTH

DOMINANTS & CODOMINANTS

STAND PER HECTARE

AGE : DBH cm : HEIGHT m

NO. TREES : BASAL AREA : VOLUME

23

38

43

345

48

SITE

27° 40' S

LONG. 55° 40' W

ELEV. 320

ANNUAL RAINFALL 1708

DRY MONTHS none

AV. TEMPERATURE 20

FROST May - September

PARENT ROCK granitic

SOIL residual

TOPSOIL TEXTURE clay

DEPTH 1 m.+

REACTION 6.0

DRAINAGE free

SOIL STATE moderately degraded

TOPOGRAPHY 10% slope

ASPECT W

CONDITION AT PLANTING secondary forest

SEED ORIGIN Brazil

PLANTING

PREPARATION cleared

DATE 1938

SPACING 2 x 2

AREA 1

STOCK potted

TOOLS shovel

REPRODUCTION seed abundant

LOCATION Estación Forestal, 8 km SW of Leandro Alem, Misiones

COMMENTS Form good

SOURCE Ramón Narciso Gómez, Estación Forestal, Leandro Alem,

Misiones, Argentina

SPECIES *Eucalyptus microcorys*

ECOLOGICAL GROUP Temperate Humid

COUNTRY Argentina

PLANTATION 287

GROWTH

DOMINANTS & CODOMINANTS

STAND PER HECTARE

AGE : DBH cm : HEIGHT m NO. TREES: BASAL AREA : VOLUME

23 40 35 560 32

SITE

LAT. 27°40' S LONG. 55°40' W ELEV. 320

ANNUAL RAINFALL 1708 DRY MONTHS none

AV. TEMPERATURE 20 FROST May - September

PARENT ROCK granitic SOIL residual

TOPSOIL TEXTURE clay DEPTH 1 m. +

SUBSOIL texture clay REACTION 6.0

DRAINAGE free SOIL STATE moderately degraded

TOPOGRAPHY flat ridge

CONDITION AT PLANTING pasture

SEED ORIGIN Brazil

PLANTING

DATE 1938 SPACING 2 x 2 AREA 1

STOCK potted TOOLS shovel

REPRODUCTION seeds produced

LOCATION Estación Forestal, 8 km SW of Leandro Alem, Misiones

SOURCE Ramón Narciso Gómez, Estación Forestal, Leandro Alem,
Misiones, Argentina

13 - 52

SPECIES *Eucalyptus maculata*

ECOLOGICAL GROUP Temperate Humid

COUNTRY Argentina

PLANTATION 288

GROWTH

DOMINANTS & CODOMINANTS

STAND PER HECTARE

AGE : DBH cm : HEIGHT m

NO. TREES : BASAL AREA : VOLUME

23

41

34

280

37

SITE

lat. 27°40' S

LONG. 55°40' W

ELEV. 320

ANNUAL RAINFALL 1708

DRY MONTHS none

AV. TEMPERATURE 20

FROST May - September

PARENT ROCK granitic

SOIL residual

TOPSOIL TEXTURE clay

DEPTH 1 m.+

SUBSOIL TEXTURE clay

REACTION 6.0

DRAINAGE free

SOIL STATE moderately degraded

TOPOGRAPHY flat ridge

CONDITION AT PLANTING pasture

SEED ORIGIN Brazil

PLANTING

DATE 1938

SPACING 2 x 2

AREA 0.25

STOCK potted

TOOLS shovel

REPRODUCTION seed produced

LOCATION Estación Forestal, 8 km SW of Leandro Alem, Misiones

COMMENTS Form excellent

SOURCE Ramón Narciso Gómez, Estación Forestal, Leandro Alem,

Misiones, Argentina

SPECIES *Eucalyptus maculata*

ECOLOGICAL GROUP Temperate Humid

COUNTRY Argentina

PLANTATION 289

GROWTH

DOMINANTS & CODOMINANTS

STAND PER HECTARE

AGE : DBH cm : HEIGHT m

NO. TREES: BASAL AREA : VOLUME

5 21 21

1130 21

SITE

LAT. 26° 30' S

LONG. 54° 40' W

ELEV. 280

ANNUAL RAINFALL 1733

DRY MONTHS none

AV. TEMPERATURE 20

FROST May - September

PARENT ROCK basalt

SOIL residual

TOPSOIL TEXTURE none

SUBSOIL TEXTURE clay

DEPTH 1 m.+

REACTION 6.5

DRAINAGE free

SOIL STATE little disturbed

TOPOGRAPHY 5% slope

ASPECT NE

CONDITION AT PLANTING virgin forest

SEED ORIGIN Brazil

PLANTING

PREPARATION cleared

DATE 1956

SPACING 2 x 2

AREA 0.1

STOCK potted

TOOLS shovel

SURVIVAL 45% at 5 years

REPRODUCTION seeds produced

LOCATION Centro Forestal, Puerto Piray, Misiones

SOURCE Hugo Sartori, Celulosa Argentina, S.A. Puerto Piray,

Misiones, Argentina

13 - 54

SPECIES Eucalyptus botryoides

ECOLOGICAL GROUP Temperate Humid

COUNTRY Argentina

PLANTATION 290

GROWTH

DOMINANTS & CODOMINANTS

STAND PER HECTARE

AGE : DBH cm : HEIGHT m

NO. TREES: BASAL AREA : VOLUME

5

21

25

1630

26

SITE

LAT. 26° 30' S

LONG. 54° 40' W

ELEV. 280

ANNUAL RAINFALL 1733

DRY MONTHS none

AV. TEMPERATURE 20

FROST May - September

PARENT ROCK basalt

SOIL residual

TOPSOIL TEXTURE none

SUBSOIL TEXTURE clay

DEPTH 1 m.+

REACTION 6.5

DRAINAGE free

SOIL STATE little disturbed

TOPOGRAPHY 5% slope

ASPECT NE

CONDITION AT PLANTING virgin forest

SEED ORIGIN Brazil

PLANTING

PREPARATION cleared

DATE 1956

SPACING 2 x 2

AREA 0.1

STOCK potted

TOOLS shovel

SURVIVAL 65% at 5 years

REPRODUCTION seeds produced

LOCATION Centro Forestal, Puerto Piray, Misiones

SOURCE Hugo Sartori, Celulosa Argentina, S.A. Puerto Piray,

Misiones, Argentina

SPECIES *Eucalyptus propinqua*

ECOLOGICAL GROUP Temperate Humid

COUNTRY Argentina

PLANTATION 291

GROWTH

DOMINANTS & CODOMINANTS

STAND PER HECTARE

AGE : DBH cm : HEIGHT m

NO. TREES : BASAL AREA : VOLUME

5 17 24

2000 29

SITE

LAT. 26°30' S LONG. 54°40' W ELEV. 280

ANNUAL RAINFALL 1733 DRY MONTHS none

AV. TEMPERATURE 20 FROST May - September

PARENT ROCK basalt SOIL residual

TOPSOIL TEXTURE none SUBSOIL TEXTURE clay

DEPTH 1 m.+ REACTION 6.5 DRAINAGE free

SOIL STATE little disturbed

TOPOGRAPHY 5% slope ASPECT NE

CONDITION AT PLANTING virgin forest

SEED ORIGIN Brazil

PLANTING

PREPARATION cleared DATE 1956

SPACING 2 x 2 AREA 0.1 STOCK potted

TOOLS shovel SURVIVAL 80% at 5 years

REPRODUCTION seeds produced

LOCATION Centro Forestal, Puerto Piray, Misiones

SOURCE Hugo Sartori, Celulosa Argentina S.A. Puerto Piray

Misiones, Argentina

13 - 56

SPECIES *Eucalyptus paniculata*

ECOLOGICAL GROUP Temperate Humid

COUNTRY Argentina

PLANTATION 292

GROWTH

DOMINANTS & CODOMINANTS

STAND PER HECTARE

AGE : DBH cm : HEIGHT m

NO. TREES: BASAL AREA : VOLUME

5

14

18

2400

22

SITE

LAT. 26°30' S

LONG. 54°40' W

ELEV. 280

ANNUAL RAINFALL 1733

DRY MONTHS none

AV. TEMPERATURE 20

FROST May - September

PARENT ROCK basalt

SOIL residual

TOPSOIL TEXTURE none

SUBSOIL TEXTURE clay

DEPTH 1 m. +

REACTION 6.5

DRAINAGE free

SOIL STATE little disturbed

TOPOGRAPHY 5% slope

ASPECT NE

CONDITION AT PLANTING virgin forest

SEED ORIGIN Brazil

PLANTING

PREPARATION cleared

DATE 1956

SPACING 2 x 2

AREA 0.1

STOCK potted

TOOLS shovel

SURVIVAL 95% at 5 years

REPRODUCTION seeds produced

LOCATION Centro Forestal, Puerto Piray, Misiones

SOURCE Hugo Sartori, Celulosa Argentina, S.A. Puerto Piray,

Misiones, Argentina

SPECIES Eucalyptus alba

ECOLOGICAL GROUP Temperate humid

COUNTRY Argentina

PLANTATION 293

GROWTH

DOMINANTS & CODOMINANTS

STAND PER HECTARE

AGE : DBH cm : HEIGHT m

NO. TREES: BASAL AREA : VOLUME

5

23

27

1630

32

SITE

LAT. 26° 30' S

LONG. 54° 40' W

ELEV. 280

ANNUAL RAINFALL 1733

DRY MONTHS none

AV. TEMPERATURE 20

FROST May - September

PARENT ROCK basalt

SOIL residual

TOPSOIL TEXTURE none

SUBSOIL TEXTURE clay

DEPTH 1 m.+

REACTION 6.5

DRAINAGE free

SOIL STATE little disturbed

TOPOGRAPHY 5% slope

ASPECT NE

CONDITION AT PLANTING virgin forest

SEED ORIGIN Brazil

PLANTING

PREPARATION cleared

DATE 1956

SPACING 2 x 2

AREA 0.1

STOCK potted

TOOLS shovel

SURVIVAL 65% at 5 years

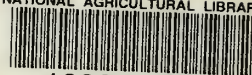
REPRODUCTION seeds produced

LOCATION Centro Forestal, Puerto Piray, Misiones

COMMENTS Good form

SOURCE Hugo Sartori, Celulosa Argentina, S.A. Puerto Piray,

Misiones, Argentina



1022912878

13 - 58

SPECIES Eucalyptus rudis

ECOLOGICAL GROUP Temperate humid

COUNTRY Argentina

PLANTATION 294

GROWTH

DOMINANTS & CODOMINANTS

STAND PER HECTARE

AGE : DBH cm : HEIGHT m

NO. TREES : BASAL AREA : VOLUME

5 23 24

1200 20

SITE

LAT. 26° 30' S LONG. 54° 40' W ELEV. 280

ANNUAL RAINFALL 1733 DRY MONTHS none

AV. TEMPERATURE 20 FROST May - September

PARENT ROCK basalt SOIL residual

TOPSOIL TEXTURE none SUBSOIL TEXTURE clay

DEPTH 1 m.+ REACTION 6.5 DRAINAGE free

SOIL STATE little disturbed TOPOGRAPHY 5% slope

ASPECT NE CONDITION AT PLANTING virgin forest

SEED ORIGIN Brazil

PLANTING

PREPARATION cleared DATE 1956 SPACING 2 x 2

AREA 0.1 STOCK potted TOOLS shovel

SURVIVAL 50% at 5 years

REPRODUCTION seeds produced

LOCATION Centro Forestal, Puerto Piray, Misiones

COMMENTS form fair

SOURCE Hugo Sartori, Celulosa Argentina, S.A., Puerto Piray,

Misiones, Argentina